Use of Emergency Alert during the

Mitchell Hazardous Material Fire

16 September 2011

1. Background

Emergency Alert is a nationally coordinated telephony based warning system designed to send messages to the landline and mobile telephones of residents in a defined geographic area. The ACT is a partner in Emergency Alert and has established a capacity to use the system operationally in the ACT. Emergency Alert is not an "opt in" or "opt out" system, as it is based on the national telephone database of all Australian telephone providers.

Emergency Alert is operational, allowing messages to be sent to landline and mobile telephones in a defined geographic area determined by the billing addresses that occur in that area.

It will not provide messages to mobile phones within the target area that have billing addresses outside that area. Likewise, it will send messages to mobile phones outside the target area if their billing address is inside that area.

For the hazardous material fire at Mitchell, two Emergency Alert campaigns were run, and messages were issued. The commencement of messaging was at 0138 and 0319 on the morning of 16 September 2011 for the first and second campaign respectively.

This was the first operational use of the system in the ACT. Previous uses have been for testing only.

2. First use of Emergency Alert – 16 September 2011 – 0138 hours

2.1 The Messages

The first Emergency Alert was issued at 0138 hours on Friday 16 September 2011.

- o The first voice message advised:

  Emergency. Emergency. The ACT Fire Brigade is responding to a Chemical incident in Mitchell. Residents are advised to evacuate the suburb immediately including the racecourse and EPIC. Further information is available via Canberra Connect, or go to www.esa.act.gov.au.

- o The first text message advised

  Emergency. Emergency. The ACT Fire Brigade is responding to a Chemical incident in Mitchell. Residents are advised to evacuate the suburb immediately.

Spelling errors in the original text message are corrected above.

There has been criticism levelled at the ACT Government regarding the messages issued due to the spelling errors in both messages issued via SMS. It is regrettable that this led to uncertainty regarding the origin and authenticity of the messages for some recipients.

Specifically, the following spelling errors were contained in the text message:

> **Insadents** for incidents.

> **Resadents** for residents.

The Emergency Alert System issues warnings via voice recording and SMS based on predefined templates for a particular emergency.

The template of the voice message requires words to be spelt phonetically by the originating agency to ensure that words will be pronounced correctly when automatically converted from text to voice by the system. However, this is not a requirement for warnings issued via SMS. This distinction was not taken into consideration at the time the Emergency Alerts were issued with the result that phonetic spellings were inadvertently copied into SMS messages.

2.2 Target Area

The Target Area was to registered billing addresses for mobile and landline telephones within the suburb of Mitchell including Exhibition Park (EPIC) and the Canberra Racecourse. The data provided in this report is based on information provided by the system manager on 17 September 2011.

Within this area:

22,598 landline services were identified. [1]

2,693 mobile services were identified.

A campaign duration of 30 minutes was nominated.

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[1] The number of fixed landline phones for the first alert message was much greater than mobile services. In residential areas, there are generally a significantly higher proportion of mobile telephones to fixed landlines.

Analysis of the Geocoded National Address File (GNAF) which is administered by the Public Sector Mapping Agency identified 1421 individual address points in the first target area, which is significantly less than the 22,598 landline services identified. This reflects the target area was largely commercial and industrial, and may include telephone exchanges. The ESA will raise with the system managers issues associated with the high proportion of landline services identified compared with the actual number of address points to potentially reduce the time required to send messages by the system.

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2.3   Call Statistics

Of the 22,598 voice messages to fixed landline services identified in the target area:

5,851 (25%) of calls were answered.

2,375 (10%) of lines were identified as busy.

3,652 (16%) were not answered.

9,836 (44%) were invalid calls. [2]

884 (4%) were fax lines.

NB: 22,598 (100%) of numbers were dialled.

Of the 2,693 mobile services identified in the target area[3]:

1,696 (63%) of text messages were delivered.[4]

895 (33%) of text messages expired.

58 (2%) text messages were undelivered.

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[2] Numbers incorrectly identified due to customer's records not being updated.

[3] These figures are based on the campaign summary report provided by the systems manager and it is noted for the mobile services the "delivered", "expired" and "undelivered" messages do not equal the total services identified. This discrepancy will be raised with the system managers.

[4] The system does not identify whether "delivered" text messages were opened and read by the recipients. Likewise, the system does not identify whether these mobiles that received the messages were inside or outside the target area at the time of delivery.

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3. Second use of Emergency Alert 16 September 2011 – 0319 hours

3.1   The Messages

The second Emergency Alert was issued at 0319 hours on Friday 16 September 2011.

- o   The second voice message advised:

   The ACT Fire Brigade is responding to a chemical incident in Mitchell. Residents of Franklin, Crace, Harrison, Watson, Downer, Kaleen, Lyneham, Hackett are advised to shelter indoors, immediately. If you are indoors, close all windows, doors, vents and turn off air conditioning. Further information is available via Canberra Connect, or go www.esa.act.gov.au.

- o   The second text message advised

   The ACT Fire Brigade responding to chemical incident in Mitchell. Residents of Franklin, Crace, Harrison, Watson, Downer, Kaleen, Lyneham, Hackett stay indoors.

Again, spelling errors in the original text are corrected above.

There has been criticism levelled at the ACT Government regarding the messages issued due to the spelling errors in both messages issued via SMS. It is regrettable that this led to uncertainty regarding the origin and authenticity of the messages for some recipients.

Specifically, the following spelling errors were contained in the text message:

>   ***Insadents*** for incidents.

>   ***Resadents*** for residents.

The Emergency Alert System issues warnings via voice recording and SMS based on predefined templates for a particular emergency.

The template of the voice message requires words to be spelt phonetically by the originating agency to ensure that words will be pronounced correctly when automatically converted from text to voice by the system. However, this is not a requirement for warnings issued via SMS. This distinction was not taken into consideration at the time the Emergency Alerts were issued with the result that phonetic spellings were inadvertently copied into SMS messages.

3.2   Target Area

The Target Area was to registered billing addresses for mobile and landline telephones within the suburbs of Franklin, Crace, Harrison, Watson, Downer, Kaleen, Lyneham, Hackett and Mitchell.

Within this area:

>   86,801 landline services were identified.[5]

>   83,774 Mobile services were identified.

>   A campaign duration of 30 minutes was nominated.

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[5]The number of fixed landline phones for the second alert message was similar to mobile services. As previously noted, in residential areas there are generally a significantly higher proportion of mobiles to fixed landlines. It is noted that the second campaign also included the area of Mitchell, which as shown in the first campaign, has a large number of fixed landlines relative to mobile phones.

Analysis of the Geocoded National Address File (GNAF) identified 37,017 individual address points in the second target area, which is significantly less than the 86,801 landline services identified. The ESA will raise with the system managers issues associated with the high proportion of landline services identified compared with the actual number of address points to potentially reduce the time required to send messages by the system.

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3.3   Call Statistics

Of the 86,801 voice messages to fixed landline services identified in the target area:

>   13,784 (16%) of calls were answered.

>   2,690 (3%) were invalid calls.[6]

>   69,229 (80%) were not dialled.

>   1,098 (1%) were fax lines.

Of the 83,774 mobile services identified in the target area[7]:

>   52,700 (63%) of text messages were delivered. [8]

>   26,740 (32%) of text messages expired.

>   3,049 (4%) of text messages were undelivered.

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[6] See note 2 above.

[7] See note 3 Above

[8] See note 4 above.

4.   Analysis

In preparing the campaigns, there was an expectation that the alerts issued for the target area would be delivered within 30 minutes due to the nature and urgency of the incident. The system captured the identified areas and accepted the allocated campaign time nominated by the ESA. It was not until the results of the two campaigns were provided that it was identified that a significant number of phone messages and SMS messages were not delivered as the time specified for the system to dial all of the numbers with billing addresses in the target area proved to be too short. These are identified as "text messages expired" or "not dialled" fixed landline calls above.

While the system does identify the necessary time duration to complete a campaign, the system does not provide a warning to the operator that the proposed campaign is too short.

These matters were discussed with the managers of the system. With the size of the second campaign, it was estimated it could have taken 6-7 hours to complete – this would have finished sending messages around 9:00 - 10:00 am, well after the "shelter in place" advice had been lifted.

The system managers advised on a number of options that may assist in disseminating these advices:

   a. Prioritise SMS messages by sending these prior to commencing fixed landline messaging;
   b. Split the target areas into a number of separate campaigns, although this may not assist where the system is accessing a single telephone exchange to deliver the messages.

These issues did not arise in previous testing over relatively smaller areas. Testing undertaken on 7 June 2011 covered Dunlop and targeted 1573 fixed landlines and over 5000 mobile services. This test resulted in approximately 88% of landlines being answered and text messages sent to approximately 67% of mobile phones within 45 minutes.

5.   Summary and recommended actions

Notwithstanding limitations arising from a discrepancy between the identified target area and the nominated campaign time, the Emergency Alert successfully provided warning messages to a significant number of people in the community that were acted upon.

Also, it is important to note that Emergency Alert is a single component of a comprehensive series of tools for alerting the community. The ESA's systems for alerting the community to emergencies via the media and via the ESA website homepage were successful. This was demonstrated through local media resuming local broadcasting early on Friday morning. For example, ABC local media commenced broadcasting at approximately 2:00 am, compared with their normal commencement of local broadcasting at 5:30 am. In addition, the ESA with the assistance of ACT Policing used person-to-person notification in the early stages of the incident to warn those people who were staying at EPIC when the incident occurred.

The wording and issue of any future alerts using the Emergency Alert System will be critically examined as part of the ACT Fire Brigade After Action Review for this incident. Pending outcomes of the review the ESA will undertake the following measures in relation to the future use of the system:

   1. Additional training on the use of the Emergency Alert system to identified ESA staff;
   2. Review of the internal procedures relating to the operation of the system, including quality assurance and authorisation processes;

3. Recognition that in future campaigns, the use of multiple and smaller campaigns may be more appropriate where a large number of voice and text messages are required to be delivered; and

4. The Emergency Services Commissioner will provide written feedback to the systems managers about the ACT's experience of this operational activation of the system, including to suggest potential improvements in the operator's interface, such as the provision of a "Red Flag" warning for circumstances where the size of the campaign exceeds the time nominated for delivery of the message.

It is also recommended that:

5. The ACT raise issues associated with the ACT's operational use of the system in appropriate emergency management fora (including the National Emergency Management Committee and the Standing Council on Police and Emergency Management) at the next convenient opportunity.

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